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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,513	08/29/2001	Yasushi Sawamura	0599-0207P	7250

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

KEEHAN, CHRISTOPHER M

ART UNIT PAPER NUMBER

1712

DATE MAILED: 06/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,513

Applicant(s)

SAWAMURA ET AL.

Examiner

Christopher M. Keehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-23,25-34,36 and 38-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,12-17,20,21,23,25-29,32-34,36,38,40 is/are rejected.
- 7) ☒ Claim(s) 9-11,18,19,22,30,31 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Note: regarding applicant's concerns about the Preliminary Amendment filed January 27, 2003, it appears this was not received in the file. A subsequent call was made to applicant and a copy of the Preliminary Amendment and has since been entered into the case.

Claim Objections

The objections to claim 1, 7, 17, 15-24, and 26 have been withdrawn due to applicant's amendments.

Claim Rejections - 35 USC § 112

The rejection of claim 3 under 35 U.S.C. 112, first paragraph, has been withdrawn due to applicant's arguments.

The rejection of claims 13, 14, 24, 25, 35, and 36 has been withdrawn due to applicant's amendments.

The rejection of claims 13, 14, 25, 35 and 36 under 35 U.S.C. 101 has been withdrawn due to applicant's amendments.

The rejection of claims 21 and 22 under 35 U.S.C. 112, second paragraph, has been withdrawn due to applicant's amendments.

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The rejection of claims 14, 15, 16, 23, 26-34, and 36 have been withdrawn due to applicant's amendments.

Claim Rejections - 35 USC § 102

The rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by Sei et al. (5,523,137) has been withdrawn due to applicant's amendments.

The rejection of claims 7, 8, 12, 17, and 20 under 35 U.S.C. 102(b) as being anticipated by Sei et al. (5,523,137) has been maintained and is as set forth in the previous office action.

Claim Rejections - 35 USC § 103

The rejection of claims 1, 5, 6, 15, 16, 20, and 26-28 under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (5,827,908) has been withdrawn due to applicant's arguments.

The rejection of claims 5, 6, 15, 16, 21, 22, 26-29, 32, and 33 under 35 U.S.C. 103(a) as being unpatentable over Sei et al. (5,523,137) has been withdrawn due to applicant's amendments.

Withdrawal of Allowable Subject Matter

In the previous office action, it was indicated that claims 2, 9-11, 18, 19, 30 and 31 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations

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of the base claim and any intervening claims. However, upon further review, the allowability of claim 2 has been withdrawn in light of a new rejection.

Response to Arguments

Applicant's arguments filed 4/15/03 have been fully considered but they are not persuasive. Regarding applicant's arguments concerning the 102(b) rejection over Sei et al., while applicant is arguing that Sei et al. do not teach or disclose the epoxy containing glycidyl groups, and the examiner agrees, the amendment to include this limitation has only occurred in claim 1. As independent claims 7 and 17 do not contain this amendment, and no argument has been presented against these claims for this rejection, the current rejection is maintained and is as set forth in the previous office action.

New Claim Rejections - 35 USC § 102

Claims 1, 7, 8, 12-14, 17, 20, and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Hashimoto et al. (5,893,988). Regarding claim 1, Hashimoto et al. disclose an adhesive sheet comprising a laminate having an adhesive layer on a flexible substrate (paragraph bridging columns 9 and 10), wherein the adhesive contains a thermoplastic resin (col.3, line 43-col.4, line 28), and a biphenyl epoxy resin that contains glycidyl groups (col.7, lines 10-21).

Regarding claims 7 and 13, Hashimoto et al. disclose a layer having an insulator layer and a conductor pattern, one layer without any conductor pattern

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formed, and one adhesive layer (Figure 1, numbers 1, 2, and 6, respectively), and the instantly claimed adhesive composition (as set forth above).

Regarding claim 8, Hashimoto et al. disclose a butadiene-containing copolymer (col.3, line 43-col.4, line 28).

Regarding claim 12, Hashimoto et al. disclose a phenolic resin (col.4, lines 30-39).

Regarding claim 14, Hashimoto et al. disclose the instantly claimed device (Figures).

Regarding claim 17, Hashimoto et al. disclose the instantly claimed tape (Abstract) being constituted by a laminate having an adhesive layer, and a protective film layer (col.10, lines 17-21), on a flexible organic insulating film (col.9, line 55-col. 10, line 16).

Regarding claim 20, Hashimoto et al. disclose a phenolic resin (col.4, lines 30-39).

Regarding claim 38, Hashimoto et al. disclose an adhesive-backed tape and an integrated circuit (Figures).

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (5,955,5668). Regarding claim 1, Lee et al. disclose an adhesive sheet comprising a laminate having an adhesive layer on a flexible substrate (Examples 1 and 3), wherein the adhesive contains a thermoplastic resin (col.4, lines 43-49), and a cyclopentadiene- epoxy resin that contains glycidyl groups (col.4, lines 50-60).

New Claim Rejections - 35 USC § 102/103

Claims 5, 6, 15, 16, 23, 25-29, 32, 34, and 36 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hashimoto et al. (5,863,988). Hashimoto et al., as applied above, are as set forth and incorporated herein. Regarding claims 5, 6, 15, 16, 26, and 27, Hashimoto et al. disclose a layer having an insulator layer and a conductor pattern, one layer without any conductor pattern formed, and one adhesive layer (Figure 1, numbers 1, 2, and 6, respectively). Hashimoto et al. do not appear to specifically disclose the instantly claimed inherent properties. However, as the claimed materials of Hashimoto et al. are the same as applicant's, it appears these properties are inherently disclosed. If not inherent, then it would have been obvious to one of ordinary skill in the art at the time the invention was made for the composition of Hashimoto et al. to have at least similar properties, as the claimed materials are at least similar to those of Hashimoto et al., and at least similar materials would have been expected to yield at least similar properties.

Regarding claim 23, Hashimoto et al. disclose a polyimide film (col.9, lines 60-66).

Regarding claim 25, Hashimoto et al. disclose an adhesive-backed tape and an integrated circuit (Figures).

Regarding claim 28, the same reasoning as set forth above for claims 1 and 7 also applies to claim 28, as the claimed limitations are essentially the same.

Regarding claim 29, Hashimoto et al. disclose an amount of epoxy included in the instantly claimed range (col.7, line22-49).

Regarding claim 32, Hashimoto et al. disclose a phenolic resin (col.4, lines 30-39).

Regarding claim 34, Hashimoto et al. disclose a polyimide film (col.9, lines 60-66).

Regarding claim 36, Hashimoto et al. disclose an adhesive-backed tape and an integrated circuit (Figures).

New Claim Rejections - 35 USC § 103

Claims 21 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. (5,863,988). Regarding claim 21 and 33, Hashimoto et al. disclose a phenol resin of resol phenol resin (col.4, lines 30-39) in an amount that can include the range as claimed (col.7, lines 34-49). Although Hashimoto et al. do not appear to specifically disclose the instantly claimed range, Hashimoto et al. teach that adding the different components, including the phenolic resin, in different amounts affects the adhesion strength of the composition (col.7, lines 50-64), thereby identifying it as a result-effective variable. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the phenolic resin in varying

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amounts, including that as instantly claimed, through routine experimentation and optimization. A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Boesch*, 205 USPQ 215. It has been held that where the general conditions are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233, 235.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (5,955,566) in view of JP 08301973 (JP '973). Lee et al., as applied above, are as set forth and incorporated herein. Lee et al. do not appear to specifically disclose the instantly claimed dicyclopentadiene-epoxide structure. JP '973 disclose an adhesive for use in electronic applications of the instantly claimed structure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the dicyclopentadiene-epoxide as taught by JP '973 to the composition as taught by Lee et al. because JP '973 teach that using a dicyclopentadiene-epoxide as an adhesive in semiconductor and printed circuit applications produces excellent heat and moisture resistance and adhesion, resulting in a higher quality product.

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. (5,863,988) in view of the Chemical Registry. Hashimoto et al.,

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as applied above, are as set forth and incorporated herein. Hashimoto et al. do not specifically disclose the instantly claimed biphenyl epoxide. The Chemical Registry lists this compound as claimed by applicant (see attached sheet).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the biphenyl epoxide as is known in the art in the composition of Hashimoto et al. because this compound is a known biphenyl epoxide, thereby increasing the heat resistance, toughness, and high adhesion properties, resulting in a higher quality product.

Allowable Subject Matter

It appears that claims 9-11, 18, 19, 30 and 31 are still objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for the reasons as set forth in the previous office action.

Claims 22 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claim 22, a reasonable search of the prior art failed to reveal the limitations as set forth in claim 22, specifically the phenolic resin as instantly claimed. Regarding claim 39, the instantly claimed terpene-epoxide did not appear to be taught or disclosed by the prior art of record.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (703) 305-2778. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Christopher Keehan *CMK*

June 23, 2003



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700